REMARKS

Reconsideration of the application is requested.

Claims 1-16 remain in the application. Claims 1-16 are subject to examination.

In item 2 on page 2 of the above-identified Office Action, claims 1-5 have been rejected as being fully anticipated by U.S. Patent No. 5,675,485 to Seong (hereinafter Seong) under 35 U.S.C. § 102.

In item 3 on page 2 of the above-identified Office Action, claims 1-7 have been rejected as being fully anticipated by U.S. Patent No. 5,940,281 to Wolf (hereinafter Wolf) under 35 U.S.C. § 102.

The invention of the instant application, and as recited in claim 1, pertains to a method for driving a switch connected in series with a primary coil of a transformer in a freely oscillating (free-running) switched-mode power supply. An input voltage is present via a series connection of the primary coil and the switch and a secondary coil of the transformer is coupled to output terminals. The method provides for a control signal for determining the power consumption, a modulation signal and a drive signal for the

switch. The drive signal includes a recurrent pulse sequence with at least a first switching-on pulse of a first pulse duration and at least a second switching-on pulse of a second pulse duration. The pulse duration of at least one of the two switching-on pulses is modulated in accordance with the modulation signal within a range predetermined by the control signal.

In this method, the switch connected in series with the primary coil is at least switched on twice during a single drive operation, i.e. by the first switching-on pulse for a first pulse duration and by the second switching-on pulse for a second pulse duration. Furthermore, the pulse duration of at least one of the two pulses is modulated by the modulation signal. The modulation of the pulse occurs within a time period predetermined by the control signal controlling the power consumption.

It is respectfully stated that such a method cannot be gathered from either Seong or Wolf as cited by the Examiner. Both Seong and Wolf describe conventional methods for the pulse width-modulated driving of a switch connected in series with a primary coil of a transformer in a switched-mode power supply, as now explained.

Seong describes, with reference to Fig. 5, a switched-mode power supply with a transformer 53, a primary coil Wp of which is connected in series with a switch 572. The switch 572 is driven by the pulse width-modulated drive signal V_{GS} via a controller 571. The pulse width-modulated drive signal V_{GS} is generated, with reference to Figs. 6 and 7, in dependence upon a feedback signal V_{FB} and in dependence upon a saw tooth signal V_{STW} generated by an oscillator 5711. The feedback signal V_{FB} in this switched-mode power supply fulfills the function of a control signal controlling the power consumption, as can clearly be seen in Figs. 6 and 7. The feedback signal V_{FB} is subtracted via an amplifier 5713 from a reference signal V_{ref} in order to generate an amplifier output signal V_{CON}. The amplifier output signal V_{CON} is fed to the pulse width modulator PWM together with the saw tooth signal V_{STW}. The pulse width modulator generates, beginning with an increasing slope of the saw tooth signal V_{STW}, a drive pulse V_{PWM}, which serves for driving the switch 572 via an AND gate 5717. The duration of the drive pulses is dependent upon the amplitude of the amplifier output signal V_{CON} and is therefore dependent upon the feedback signal V_{FB}. It is noted that a duration of the drive pulse increases with a decreasing amplitude of the feedback signal V_{FB} or that the duration of the drive pulse decreases with an increasing amplitude of the feedback signal V_{FB}.

In the method according to Seong, only one drive pulse is generated during a drive operation of the switch 572. The duration of the drive pulse is dependent upon the feedback signal/control signal V_{FB} which controls the power consumption. In contrast to the method according to the invention of the instant application, two drive pulses are not generated during a drive operation of the switched-mode power supply in the method according to Seong. Furthermore, the method according to Seong does not provide a modulation signal, which serves for modulating the duration of the drive pulse within a range predetermined by the feedback signal V_{FB}. Both of these features are clearly recited in claim 1 of the instant application.

Wolf describes a method for driving a switch in a switched-mode power supply, which is comparable to the method taught in Seong.

Fig. 3 of Wolf shows a switched-mode power supply with a switch (transistor) T1 connected in series with the primary coil 18 of a transformer, the switch T1 being driven via a switching controller 10 by a pulse width modulated drive signal. The switch T1 is switched on via a flip-flop 31 and a driver stage 32, respectively, in response to the clock

pulse of a clock signal generated by an oscillator 30. In order to switch on the switch T1, the flip-flop 31 is set via its set input S through the oscillator 30. The switch T1 is switched off by resetting the flip-flop 31. The resetting of the flip-flop 31 occurs in dependence upon a comparison of a saw tooth signal provided at a node 2 with a comparison signal U_R provided at a node 3. The saw tooth signal at the node 2 is generated, in this circuit, by an auxiliary coil (winding) 19 and an integrator 11. A steepness of the saw tooth signal is dependent upon the voltage present above the primary coil 18 or the auxiliary coil 19 with the switch being conductive.

In contrast to the method according to the invention of the instant application, the switch T1 of Wolf is only driven by a single drive pulse during a driving operation in the method according to Wolf. Furthermore, the duration of the drive signal is dependent upon a comparison of a saw tooth signal with a reference signal. In addition, no modulation signal is provided in the method according to Wolf which serves for modulating the duration of the drive pulse within a range predetermined by a control signal.

In summary, neither Seong nor Wolf are believed to teach (1) a modulation signal for modulating the duration of the drive

pulse within a range predetermined by the control signal, and (2) two drive pulses being generated during a single drive operation.

Under the heading "Claim Rejections - 35 USC § 103" on pages 3 and 4 of the above-identified Office Action, claims 6-16 have been rejected as being obvious over Wolf in view of U.S. Patent No. 6,825,644 to Kernahan et al. (hereinafter Kernahan) under 35 U.S.C. § 103.

First, claims 6-13 depend from claim 1. As noted above, claim 1 is believed to be allowable and therefore, claims 6-13 are also believed to be allowable.

Second, Applicant respectfully states, as will be seen from the following, that Kernahan is not available as a prior art reference against the instant application.

Applicant respectfully notes that Kernahan has a United States filing date of **November 14, 2002**. As set forth in the Declaration of record, the instant application claims international priority of German Application No. **102 42 218.4**, filed **September 12, 2002**, under 35 U.S.C. § 119. Pursuant to 35 U.S.C. §§ 119, applicant is entitled to the priority date of the German application. See MPEP §§ 201.13

and 1895. Thus, the instant application predates Kernahan because Kernahan was filed after the priority date of the instant application, applicant respectfully believes that Kernahan is unavailable as prior art.

Applicant acknowledges that perfection of priority can only be obtained by filing a certified English translation of the German priority application. See 35 U.S.C. § 119. It is noted that the instant application was filed with a Claim for Priority on September 12, 2003 along with a certified copy of German Application No. 102 42 218.4. Enclosed herewith is a certified English translation of the originally filed German application.

Accordingly, applicant respectfully believes that priority has been perfected and Kernahan is unavailable as prior art. Therefore, applicant respectfully submits that the Section 103 rejection of claims 6-16 of the Office Action is now moot.

It is accordingly believed to be clear that none of the references, whether taken alone or in any combination, either show or suggest the features of claims 1 or 14. Claims 1 and 14 are, therefore, believed to be patentable over the art.

The dependent claims are believed to be patentable as well because they all are ultimately dependent on claim 1 or 14.

In view of the foregoing, reconsideration and allowance of claims 1-16 are solicited.

Petition for extension is herewith made. The extension fee for response within a period of one-month pursuant to Section 1.136(a) in the amount of $120.00 in accordance with Section 1.17 is enclosed herewith.

If an extension of time is required, petition for extension is herewith made. Any extension fee associated therewith should be charged to the Deposit Account of Lerner and Greenberg, P.A., No. 12-1099.

Please charge any other fees that might be due with respect to Sections 1.16 and 1.17 to the Deposit Account of Lerner and Greenberg, P.A., No. 12-1099.

Respectfully submitted,

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